Introduction to Scientific Programming: Computational Problem Solving Using Mathematica® and C. By Joseph L. Zachary. Springer-Verlag, New York. (1998). $49.95 (diskette included).
Contents:

Preface. 1. Computational science. 2. Population density: Computational properties of numbers. 3. Erathosthenes: Significant digits and interval arithmetic. 4. Stairway to Heaven: Accumulation of roundoff error. 5. Kitty Hawk: Programmer-defined functions. 6. Baby boom: Symbolic computation. 7. Ballistic trajectories: Scientific visualization. 8. The battle for Leyte Gulf: Symbolic mathematics. 9. Old MacDonald's cow: Imperative programming. 10. Introduction to C. 11. Robotic weightlifting: Straight-line programs. 12. Sliding blocks: Conditionals and functions. 13. Rod stacking: Designing with functions. 14. Newton's beam: Repetition. 15. Corrugated sheets: Multiple-file programs. 16. Harmonic oscillation: Structures and abstract datatypes. 17. Heat transfer in a rod: Arrays. 18. Visualizing heat transfer: Arrays as parameters. Appendices. A. *Mathematica* capabilities. B. *Mathematica* functions and constants. C. C library functions. D. Using *Mathematica* 2.2. Bibliography. Index.

Distributed and Parallel Databases. Edited by Jeffrey F. Naughton and Gerhard Weikum. Kluwer Academic Publishers, Boston, MA. (1998). 110 pages. $97.50, NLG 210.00, GBP 64.50.
Contents:

Guest editor's introduction (Jeffrey F. Naughton and Gerhard Weikum). Consistency algorithms for multi-source warehouse view maintenance (Yue Zhuge, Hector Garcia-Molina and Janet L. Weiner). Distributed multi-level recovery in main-memory databases (Rajeev Rastogi, Philip Bohannon, James Parker, Avi Silberschatz, S. Seshadri and S. Sudarshan). Capabilities-based query rewriting in mediator systems (Yannis Papakonstanitinou, Ashish Gupta and Laura Haas.

The Economics of Property-Casualty Insurance. Edited by David F. Bradford. University of Chicago Press, Chicago. (1998). 203 pages. $37.50, £29.95.
Contents:

Acknowledgments. Introduction (David F. Bradford). 1. External financing and insurance cycles (Anne Gron and Deborah Lucas). 2. The effects of tax law changes on property-casualty insurance prices (David F. Bradford and Kyle D. Logue). 3. The causes and consequences of rate regulation in the auto insurance industry (Dwight M. Jaffee and Thomas Russell). 4. Rate regulation and the industrial organization of automobile insurance (Susan J. Suponcic and Sharon Tennyson). 5. The costs of insurance company failures (James G. Bohn and Brian J. Hall). 6. Organizational form and insurance company performance: Stocks versus mutuals (Patricia Born, William M. Gentry, W. Kip Viscusi and Richard J. Zeckhauser). Contributors. Author index. Subject index.

Theory of Linear and Integer Programming. By Alexander Schrijver. John Wiley & Sons, Chichester, U.K. (1986). 471 pages. £29.95.
Contents:

1. Introduction and preliminaries. 2. Problems, algorithms, and complexity. I. Linear algebra. 3. Linear algebra and complexity. Notes on linear algebra. II. Lattices and linear diophantine equations. 4. Theory of lattices and linear diophantine equations. 5. Algorithms for linear diophantine equations. 6. Diophantine approximation and basis reduction. Notes on lattices and linear diophantine equations. III. Polyhedra, linear inequalities, and linear programming. 7. Fundamental concepts and results on polyhedra, linear inequalities, and linear programming. 8. The structure of polyhedra. 9. Polarity, and blocking and anti-blocking polyhedra. 10. Sizes and the theoretical complexity of linear inequalities and linear programming. 11. The simplex method. 12. Primal-dual, elimination, and relaxation methods. 13. Khachiyan's method for linear programming. 14. The ellipsoid method for polyhedra more generally. 15. Further polynomiality results in linear programming. Notes on polyhedra, linear inequalities, and linear programming. IV. Integer linear programming. 16. Introduction to integer linear programming. 17. Estimates in integer linear programming. 18. The complexity of integer linear programming. 19. Totally unimodular matrices: Fundamental properties and examples. 20. Recognizing total unimodularity. 21. Further theory related to total unimodularity. 22. Integral polyhedra and total dual integrality. 23. Cutting planes. 24. Further methods in integer linear programming. Historical and further notes on linear programming. References. Notation index. Author index. Subject index.

Black Holes and Relativistic Stars. Edited by Robert M. Wald. University of Chicago Press, Chicago. (1998). 278 pages. $50.00, £39.95.
Contents:

Contributors. Preface. Part I. 1. Gravitational waves, stars and black holes (Valeria Ferrari). 2. Rotating relativistic stars (John L. Friedman). 3. Probing black holes and relativistic stars with gravitational waves (Kip S. Thorne). 4. Astrophysical evidence for black holes (Martin J. Rees). 5. The question of cosmic censorship (Roger Penrose). 6. Black hole collisions, toroidal black holes, and numerical relativity (Saul A. Teukolsky). 7. The internal structure of black holes (Werner Israel). Part II. 8. Black holes and thermodynamics (Robert M. Wald). 9. The statistical mechanics of black hole thermodynamics (Rafael D. Sorkin). 10. Generalized quantum theory in evaporating black hole spacetimes (James B. Hartle). 11. Is information lost in black holes? (Stephen W. Hawking). 12. Quantum states of black holes (Gary T. Horowitz). Chandra remembered. Chandra: A tribute (Kameshwar C. Wali). Our song (Lalitha Chandrasekhar).